

FAIRFAX COUNTY, VIRGINIA

MEMORANDUM

TO: PLANNING COMMISSION

DATE: June 30, 2005

FROM:  John A. Friedman, P.E.
Land Development Services - Code Analysis
Department of Public Works and Environmental Services

SUBJECT: Issues from the Planning Commission June 16, 2005, Public Hearing

REFERENCE: Proposed Amendments to the map of Chesapeake Bay Preservation Areas, Chapter 118 (Chesapeake Bay Preservation Ordinance) of the *Code of the County of Fairfax, Virginia* related to Resource Protection Area boundaries

At the June 16, 2005, public hearing, the Planning Commission requested that staff respond to a number of issues. This memorandum transmits the requested information to the Planning Commission.

Issue #1 – Challenges to the proposed RPAs and perennial stream designations.

At the public hearing, staff proposed the attached process to address the challenges to perennial stream designations submitted as part of the public testimony (written and oral) during the Planning Commission and Board public hearings. As part of the process, staff agreed to review all challenges and advise the Planning Commission on the results of our investigation and any recommended changes to the proposed map amendments prior to the Planning Commission's decision. To date, a total of 15 challenges to the proposed RPAs and perennial stream designations have been received. The challenges are categorized as follows:

Number	Type
6	Designation of stream as perennial
2	Designation of stream as perennial and width of RPA (based on estimated wetlands)
1	Designation of stream as intermittent
4	Inclusion of pond as source of perennial stream
2	Other drainage complaints not related to proposed map amendments
15	Total

Initial site visits, as appropriate, have been completed for all sites where challenges were submitted prior to June 24, 2005. The results of those investigations are attached. Two challenges submitted after June 24, 2005, still need initial site visits. These will be completed next week, weather permitting. Should additional changes to the proposed amendments be necessary, revised maps will be provided for the Board's public hearing. Based on the results of the investigation, staff is recommending revisions to the proposed amendments for map sheets #55-1 and #96-4. These include the removal of the RPA designation around a pond on map

sheet #96-4 that was determined not to be the source of flow for the perennial stream immediately downstream of the pond, and a reduction in the width of the RPA on map sheet #55-1 based on a field review of hydric soils used to estimate the extent of wetlands. Revisions are also proposed to map sheets #36-3 and 100-4 to correct printing errors that effect the symbols used to depict the different types of RPAs (1993, 2003, and 2003Revised).

The majority of the challenges, claims that streams are intermittent because they do not flow during the dry season (late summer), will not be able to be resolved until staff can confirm the absence of flow by direct observation in late summer. However, the National Weather Service's long range forecast indicates the possibility for higher than normal rainfall amounts during the July – September period due to predictions of above normal tropical storm activity and it may not be possible to resolve these challenges this year. As part of the public testimony, a number of property owners have requested that the Planning Commission and the Board delay adoption of the proposed map amendments affecting their property until after the dry season so that their challenges can be resolved. Because DPWES has agreed to perform site visits for these property owners and prepare studies for administrative reclassification of streams, as appropriate, and the uncertainty of being able to resolve all of the challenges this year, staff does not believe that a delay in adoption of proposed amendments is warranted.

Finally, as part of the initial investigations, staff performed an on-site determination of hydric soils for a stream on map sheet #30-2 for a challenge from the property owner at 1403 Pathfinder Lane. Staff has recommended a reduction of the width of this RPA. Because changes to the RPA along this stream segment were not included as part of the advertised amendments, a revision to this map is not possible with these amendments. To resolve this challenge, DPWES will prepare a study for an administrative change to the width of the RPA and place copies in Zoning files and DPWES files. Copies also will be provide to the affected property owners.

Issue #2 – Use of hyporheic flow in perennial stream reclassifications.

A stream is a body of water flowing in a natural or man-made channel with well-defined bed and banks. The term stream refers to the water flowing in the channel and not to the channel itself. A natural channel is also referred to as a watercourse. A stream is considered to be surface water. Hyporheic flow is a type of ground water flow that may occur in alluvial deposits below a stream's bed including both perennial and intermittent streams. Because hyporheic flow is groundwater flow, it is not included as a part of stream flow. The above classifications of stream flow as surface water and hyporheic flow as groundwater are consistent with definitions of surface water and ground water found in the Code of Virginia.

Section 62.1-242 Definitions of Chapter 24 Surface Water Management Areas, Title 62.1 Waters of the State, Ports and Harbors. of The Code of Virginia defines surface water as follows:

“Surface water” means any water in the Commonwealth, except ground water, as defined in § 62.1-255.

Section 62.1-255 Definitions of Chapter 25 Ground Water Management Act of 1992, Title 62.1 Waters of the State, Ports and Harbors. of The Code of Virginia defines ground water as follows:

“Ground water” means any water, except capillary moisture, beneath the land surface in the zone of saturation or beneath the bed of any stream, lake, reservoir or other body of surface water wholly or partially within the boundaries of this

Commonwealth, whatever the subsurface geologic structure in which such water stands, flows, percolates or otherwise occurs.

The Chesapeake Bay Preservation Act [the Act] (Chapter 21 of the Code of Virginia) and the Chesapeake Bay Preservation Area Designation and Management Regulations [the Regulations] (9 VAC 10-20 et seq.) do not define the terms “water body with perennial flow” or “stream” and include no references to hyporheic flow. Department of Conservation and Recreation – Division of Chesapeake Bay Local Assistance (DCR-DCBLA) guidance on identifying perennial streams entitled “Determinations of Water Bodies with Perennial Flow” (State guidance) does not include any references to the use of hyporheic flow in identifying perennial streams either as a stand-alone method or as part of an approved protocol. Finally, DCR-DCBLA staff has indicated in discussions with County staff that DCR-DCBLA staff does not consider hyporheic flow to be a part of stream flow or an indicator of perenniality.

Based on the above discussion, it is not appropriate to use hyporheic flow as a defining characteristic of perennial streams and hyporheic flow should not be interpreted as part of the County’s existing definition of a “water body with perennial flow” in the Chesapeake Bay Preservation Ordinance. Further, because hyporheic flow is not a part of stream flow and may be found below the beds of both perennial and intermittent streams, observations of the presence or absence of hyporheic flow have no relevance in identifying perennial streams in the field.

In summary, there is no basis in the Act, the Regulations, other parts of the Code of Virginia, the State’s guidance on identifying perennial streams, and the County’s Chesapeake Bay Preservation Ordinance to consider hyporheic flow as a part of stream flow, a defining characteristic of perennial stream flow, or as a parameter in the identification of perennial streams.

Attachments

cc: Barbara Lipa, Executive Director, Planning Commission
Jimmie D. Jenkins, Director, Department of Public Works and Environmental Services
James W. Patteson, Director, Land Development Services, DPWES

Process to address challenges to perennial stream designations

The following will be completed prior to the Planning Commission's decision.

- For all challenges DPWES staff will check that the map is consistent with the final determination on file and review the map for cartographic errors.
- For claims that a stream does not currently have flow, staff will conduct a site visit. The property owner, a representative of the District Supervisor, and the District Planning Commissioner will be invited. Site visits will be completed within 7-14 days depending on the number of sites and weather conditions.
- Staff will advise the Planning Commission on the results of the above investigations and prepare any recommended changes to the proposed map amendments.

Post-Board adoption of amended maps.*

- For claims that a stream does not normally have flow in the dry season (late summer through early fall), property owners can call DPWES when the stream runs dry and staff will conduct a site visit. The property owner, a representative of the District Supervisor, and the District Planning Commissioner will be invited. As appropriate, DPWES will prepare studies for administrative reclassification of streams in accordance with PFM requirements. Staff will contact the property owners who made such claims during the public hearings following adoption of the maps to provide them with appropriate contact information.
- For claims that a stream is perennial, staff will review the protocol determination and other available information to determine if a restudy is appropriate. If a restudy is appropriate, and results indicate a stream should be classified as perennial, map amendments will be prepared for advertising.
- Staff will advise the Board and the Planning Commission on the results of the above investigations upon completion.

*The above process is only for challenges submitted as part of the public testimony during the Planning Commission and Board public hearings.

Requests for reclassification outside of the public hearings and going forward will be handled under the current processes detailed below.

- Administrative reclassification of streams from perennial to intermittent will require studies prepared by licensed professionals in accordance with PFM requirements and review and approval by Department of Public Works and Environmental Services (DPWES) staff. These studies are based on direct observation of the absence of stream flow during nondrought periods documented at specific points along a stream.
- Reclassification of streams from intermittent to perennial will be initiated by staff on a case-by-case basis in response to a request from an individual Board member or by a Board Matter directing staff to review a stream classification. Staff would convey the results of the review and a recommendation to the individual Board member or the entire Board, and, as appropriate, prepare an amendment to the map for authorization to advertise. Any citizen wishing to initiate a reclassification should contact their Board member.

Name/Address	Communication Method/Date	Tax-Map	Map Revised for PC Meeting?	Comments	Additional Investigations/ Actions Taken by DPWES Staff
<i>NOTE: DPWES staff conducted additional field investigation under ideal weather conditions for evaluating stream flow. The U.S. Drought Monitor Index for June 21 reported non-drought conditions changing to "abnormally dry" conditions for the week ending June 28, 2005. The last rainfall prior to June 28 was 6 days (0.01 inches) at Dulles Airport and 6 days (0.03 inches) at Reagan Washington National Airport. The number of days since the last significant rainfall (>0.1 inches) was 15 days at Dulles Airport and 22 days at Reagan Washington National Airport.</i>					
Antwerp, Gerald Van 5642 Overly Drive	Provided written comments to PC	82-1	No	Concerned about impacts to existing 1993 RPA from adjacent development. The proposed CBPA map removing a section of the RPA around a culvert >500 feet.	Not related to proposed map amendments. Staff is investigating adjacent development for impacts on RPA.
Beck 10601 and 10603 Shadow Lane	Phone call 6/15/2005. Sent follow-up letter to PC	96-4	Yes	Received call from Zack DeGraff of VA Waters and Wetlands concerning portion of stream found dry on the property of Mr. Beck.	Staff visited property on 6/16/2005 and confirmed a portion of the stream was dry just below the pond. The pond should not be included on the map as the source of the perennial stream. A revision to the proposed map amendments showing the proposed RPA around the pond removed has been prepared for PC consideration.
Frazer, Bill 1403 Pathfinder Lane	Testified at PC Hearing 6/16/2005	30-2	No (see note)	Does not feel that stream is perennial and wetlands are over estimated. NOTE: The subject RPA was adopted in 2003 and is not part of the proposed map amendments.	June 25 - Staff visited the stream and observed it to be flowing. Pictures and a map of their location can be produced on request. June 27 - Staff returned to the site to evaluate soils and potential wetlands. No potential wetlands were identified. The RPA will be reduced to the minimum 100 foot buffer. Because changes to the RPA along this stream segment were not included as part of the advertised amendments, a revision to this map is not possible with these amendments. DPWES will prepare a study for an administrative change to the width of the RPA. DPWES will conduct additional site visit for possible administrative reclassification of stream when property owner advises DPWES that the stream has gone dry. No changes to the advertised map are proposed.
Guirguis, Christiane 13503 Portage Place Bradford, Marcia 13550 Northbourne Drive	Testified at PC Hearing and provided written comments 6/15/2005 Phone calls	55-1	Yes	Does not feel that stream is perennial and that the wetland was mapped in error. Bradford family sent email to PC on June 28, 2005. Concerned about wetland estimates.	June 16 - Staff visited site and walked stream with Mrs. Guirguis. June 27 - Staff took soil samples along the stream to evaluate potential wetlands. A potential wetland area smaller than the estimated wetlands was identified. The RPA and map were revised. Stream will remain perennial on the revised map based on observations of flow. DPWES will conduct additional site visit for possible administrative reclassification of stream when property owner advises DPWES that the stream has gone dry.

Name/Address	Communication Method/Date	Tax-Map	Map Revised for PC Meeting?	Comments	Additional Investigations/ Actions Taken by DPWES Staff
Luquire, Joseph and Karen 3720 Spicewood Drive	Provided written comments to PC	59-3	No	Has lived in house for nine years and has observed the stream going dry every year.	June 25 - Staff visited site and found the stream flowing. Pictures and a map of their location can be produced on request DPWES will conduct additional site visit for possible administrative reclassification of stream when property owner advises DPWES that the stream has gone dry. No changes to the advertised map are proposed.
Overbrook Neighborhood Carr, Bill 6456 Overbrook Street Johnson, Joshua 6450 Overbrook Street	Testified at PC Hearing and provided written comments 6/16/2005	41-1	No	Concerned if the stream is perennial and how the stream was rescored with different results.	June 25 - Staff visited site and found the stream flowing. Pictures and a map of their location can be produced on request. DPWES will conduct additional site visit for possible administrative reclassification of stream when property owner advises DPWES that the stream has gone dry. No changes to the advertised map are proposed.
Pinewood Lake subdivision HOA contact is Roger Reutershan	Mount Vernon district meeting	101-1	No	Stated pond does not discharge to perennial stream during summer.	Staff will visit site before Board of Supervisor public hearing to evaluate pond. If needed, DPWES will conduct additional site visit for possible administrative reclassification of pond when property owner advises DPWES that the pond is not discharging to the stream. No changes to the advertised map are proposed.
Silver, Michael 11808 Harley Road	Letter to PC dated June 24, 2005. Received June 29, 2005	118-1 118-2	No	Requested reevaluation of stream. States that the stream is not perennial. The Silvers suggested that the survey be conducted in August/September under the administrative process proposed for reclassification perennial streams.	June 29/30 - Staff contacted Mr. and Mrs. Silver. Staff did not visit site due to rain. Staff will visit the site before the Board of Supervisors public hearing.. DPWES will conduct additional site visit for possible administrative reclassification of stream when property owner advises DPWES that the stream has gone dry. No changes to the advertised map are proposed.
Spencer, David 827 Nethercliffe Hall Road	Testified at PC Hearing and provided written comments 6/16/2005, phone calls	13-4	No	Does not feel that his stream is perennial, but has some wetlands. Additionally, he claims that wetlands and perennial streams are not the same.	June 25 - Staff visited site and found the stream flowing. Pictures and a map of their location can be produced on request. DPWES will conduct additional site visit for possible administrative reclassification of stream when property owner advises DPWES that the stream has gone dry. No changes to the advertised map are proposed.
Walker, Rob Parkridge Corporate Office Park	Testified at PC Hearing 6/16/2005	18-3	No	Is concerned the STW wet pond in the Parkridge Corporate Office Park has a proposed RPA on it. He does not see it as the "headwaters" of the perennial stream immediately downstream.	June 25 - Staff visited site and found the pond discharge and stream flowing. Pictures and a map of their location can be produced on request. DPWES will conduct additional site visit for possible administrative reclassification of pond when property owner advises DPWES that the pond is not discharging to the stream. No changes to the advertised map are proposed.

Name/Address	Communication Method/Date	Tax-Map	Map Revised for PC Meeting?	Comments	Additional Investigations/ Actions Taken by DPWES Staff
Wedderburn Property	Testified at PC Hearing 6/16/2005	39-3	No	Received comments from 11 individuals concerned that the stream reach on the Wedderburn property is perennial. Two individuals testified that the stream is nonperennial.	An RPA Plan reclassifying the stream as intermittent has been approved in accordance with the PFM. No further review is required. No changes to the advertised map are proposed.
Wilber, Gerald 10730 Harley Road	Email from Mount Vernon District office 6/28/2005	118-2	No	Stated pond is not connected to stream.	June 29/30 - Staff contacted Mr. Wilber. Due to rain, staff will visit site before Board of Supervisor public to evaluate pond. If needed, DPWES will conduct additional site visit for possible administrative reclassification of pond when property owner advises DPWES that the pond is not discharging to the stream. No changes to the advertised map are proposed.
WSSI, Inc. Langley Place Properties	Letter to Carl Bouchard received 6/28/2005	31-1	No	Identified a small, side channel within a major floodplain as not being present in the field and therefore should not be shown on the map. NOTE: The subject RPA was adopted in 1993 and is not part of the proposed map amendments.	June 30 - Staff contacted WSSI. Site visits were not conducted do to date letter was received and weather conditions. Data submitted by WSSI is being reviewed. This information will be reviewed as part of the administrative process proposed for reclassification perennial streams. No changes to the advertised map are proposed.
WSSI, Inc. 1301 Scotts Run Property	Letter to Carl Bouchard received 6/28/2005	30-1	No	Identified a small, side channel within a major floodplain as non-perennial including pictures of dry channel (dated 6/6/2005). NOTE: The subject RPA was adopted in 1993 and is not part of the proposed map amendments.	June 30 - Staff contacted WSSI. Site visits were not conducted do to date letter was received and weather conditions. Data submitted by WSSI is being reviewed. This information will be reviewed as part of the administrative process proposed for reclassification perennial streams. No changes to the advertised map are proposed.
Yang, T.C. 9222 Hidden Creek Drive	Testified at PC Hearing 6/16/2005	19-2	No	His issue seems to be sediment deposition and altered hydrology from upstream disturbances (development).	Not related to proposed map amendments. Staff investigating possible stormwater drainage problems and sedimentation.